

WHAT IS CLAIMED IS:

1. A liquid ejecting device comprising:

a liquid ejecting head, including an array of plural  
ejection nozzles for ejecting liquid at an ejecting amount  
5 controlled individually from one another;

a supply tank, loaded with said liquid, for supplying said  
liquid ejecting head with said liquid;

at least one pressure sensor for measuring atmospheric  
pressure and inner pressure of said liquid ejecting head; and

10 a controller for setting a pressure difference between said  
atmospheric pressure and said inner pressure at a predetermined  
value by adjustment.

2. A liquid ejecting device as defined in claim 1, wherein  
said predetermined value is a reference value for regularizing  
15 said ejecting amount.

3. A liquid ejecting device as defined in claim 2, further  
comprising a characteristic information detector for detecting  
characteristic information of said liquid;

said controller determines said reference value according  
20 to said characteristic information.

4. A liquid ejecting device as defined in claim 3, wherein  
said pressure sensor is disposed on said liquid ejecting head,  
or a liquid supply path for connection between said liquid  
ejecting head and said supply tank.

25 5. A liquid ejecting device as defined in claim 4, further  
comprising:

a subsidiary tank, connected between said supply tank and  
said liquid ejecting head, for storing said liquid in a temporary  
manner;

30 an air release valve for causing application of said

atmospheric pressure to an inside of said subsidiary tank;

wherein said pressure sensor is disposed in said subsidiary tank, and when said air release valve is open, detects said atmospheric pressure, and when said air release valve is closed,  
5 detects said inner pressure.

6. A liquid ejecting device as defined in claim 4, further comprising a pumping height adjustor for shifting up or down one of said liquid ejecting head and said supply tank relative to a remaining one thereof, to change a pumping height obtained  
10 by subtracting a height level of a liquid surface of said liquid in said supply tank from a height level of a nozzle arrangement surface of said plural ejection nozzles.

7. A liquid ejecting device as defined in claim 6, further comprising a liquid level sensor, disposed in said supply tank,  
15 for detecting a position of said liquid surface;

wherein said pumping height adjustor obtains said height level of said liquid surface according to said position thereof, and moves said supply tank.

8. A liquid ejecting device as defined in claim 7, wherein  
20 when supply of said liquid from said supply tank is initially started, said pumping height adjustor sets said liquid surface higher than said nozzle arrangement surface, to promote supply to said liquid ejecting head.

9. A liquid ejecting device as defined in claim 8, wherein  
25 said pumping height adjustor includes:

a tank up-down shifter for moving said supply tank up and down; and

at least one rail for guiding said supply tank up and down by preventing said supply tank from offsetting horizontally.

30 10. A liquid ejecting device as defined in claim 4, further comprising a pressure adjustor, controlled by said controller,

for adjusting a liquid pressure for supply of said liquid from said supply tank according to said pressure difference.

11. A liquid ejecting device as defined in claim 10, wherein at least one portion of said supply tank is constituted by a flexible panel;

said pressure adjustor further includes:

a flexible air container secured to an outside of said flexible panel; and

an air pump for supplying air into, or exhausting air from, said air container, to increase or decrease said liquid pressure in said supply tank through said flexible panel.

12. A liquid ejecting device as defined in claim 11, further comprising an inlet port, formed through said supply tank, settable between open and closed states, adapted for replenishment of said liquid when set in said open state, wherein said atmospheric pressure is applied to said liquid surface through said inlet port.

13. A liquid ejecting device as defined in claim 4, further comprising a nozzle cap mechanism, movable to and away from said liquid ejecting head, actuated while said pressure sensor measures said atmospheric pressure, for covering said ejection nozzles, to prevent said liquid from leakage.

14. A liquid ejecting device as defined in claim 13, wherein while said nozzle cap mechanism is away from said ejection nozzles, said pressure sensor measures said inner pressure.

15. A liquid ejecting device as defined in claim 4, wherein said supply tank is loaded with a liquid cartridge for containing said liquid;

said characteristic information is disposed on a surface of said liquid cartridge, and read by said characteristic information detector.

16. A liquid ejecting device as defined in claim 15, wherein said characteristic information detector reads said characteristic information in response to loading of said liquid cartridge.

5 17. A liquid ejecting device as defined in claim 15, wherein said controller determines an initial level of said reference value in response to loading of said liquid cartridge.

18. A liquid ejecting device as defined in claim 15, wherein said pressure sensor measures said inner pressure and said  
10 atmospheric pressure in response to loading of said liquid cartridge.

19. A liquid ejecting device as defined in claim 4, wherein said pressure sensor measures said inner pressure and said atmospheric pressure each time upon lapse of a predetermined  
15 time.

20. A liquid ejecting device as defined in claim 4, wherein if said inner pressure measured by said pressure sensor changes during determination of said ejecting amount in said controller, said controller generates an alarm signal.

20 21. A liquid ejecting device as defined in claim 4, wherein said pressure sensor measures said inner pressure each time that said liquid ejecting head ejects said liquid at a predetermined amount.

22. A liquid ejecting device as defined in claim 4, wherein  
25 said characteristic information is information of at least one of viscosity, surface tension, density and producing date of said liquid.

23. A liquid ejecting device as defined in claim 4, wherein said liquid is one of at least first and second types, and said  
30 characteristic information represents said first or second type.

24. A liquid ejecting device as defined in claim 4, wherein

a nozzle arrangement surface of said plural ejection nozzles is kept oriented substantially horizontally.